THAT WHICH IS CLAIMED:

1   1. A method for providing connectivity to a foreign network for a
2   device configured for communication over a home network without reconfiguring the
3   device, the method comprising:
4   intercepting packets transmitted by the device;
5   selectively modifying intercepted packets which are incompatible with
6   the foreign network to be compatible with network settings of the foreign network; and
7   selectively providing network services for the device corresponding to
8   network services available on the home network to reduce delay associated with
9   accessing the network services from the foreign network, or to provide network
10   services otherwise inaccessible from the foreign network.

1   2. The method of claim 1 wherein selectively providing network
2   services comprises providing a proxy service.

1   3. The method of claim 2 wherein the proxy service comprises a
2   hypertext transfer protocol proxy service.

1   4. The method of claim 2 wherein the proxy service comprises a file
2   transfer protocol proxy service.

1   5. The method of claim 2 wherein providing a proxy service comprises
2   resolving a domain name to an address.

1   6. The method of claim 5 wherein resolving a domain name to an
2   address comprises:
3   attempting to resolve the domain name to an address using a domain
4   name server accessible from the foreign network; and
5   resolving the domain name to an address corresponding to a
6   configuration adapter after a predetermined timeout period expires, or if the domain
7   name servers accessible from the foreign network can not resolve the domain name.

1   7. The method of claim 5 wherein resolving a domain name to an
2   address comprises:

3   establishing a connection between the device and a configuration

4   adapter;

5   examining contents of the intercepted packets to identify a domain

6   name;

7   resolving the domain name to an address;

8   establishing a connection between the configuration adapter and a

9   computer at the address corresponding to the domain name; and

10   splicing the connections between the device and the configuration

11   adapter, and between the configuration adapter and the computer, to form a single

12   connection between the device and the computer.

1   8. The method of claim 7 wherein splicing the connections comprises

2   directly modifying subsequently intercepted packets without copying the packet

3   payload.

1   9. The method of claim 7 wherein resolving the domain name to an

2   address comprises using a domain name server accessible from the foreign network.

1   10. The method of claim 7 wherein resolving the domain name to an

2   address comprises:

3   resolving the domain name to an address using a domain name server;

4   attempting to establish a connection with a computer at the address

5   corresponding to the domain name;

6   resolving the domain name to an address corresponding to the

7   configuration adapter after expiration of a predetermined timeout period;

8   wherein the step of splicing is performed after receiving a delayed

9   response from the computer at the address corresponding to the domain name.

1   11. The method of claim 1 wherein selectively providing network

2   services comprises providing an outgoing email service.

1   12. The method of claim 11 wherein providing an outgoing email

2   service comprises modifying intercepted simple mail transport protocol (SMTP)

3   packets to redirect the intercepted SMTP packets to an SMTP server on the foreign

4   network.

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5   13. The method of claim 11 wherein providing an outgoing email

6 service comprises modifying intercepted simple mail transport protocol (SMTP)

7 packets to redirect the intercepted SMTP packets to an SMTP server on the foreign

8 network without modifying the source address of the SMTP packet.

9   14. The method of claim 1 wherein selectively providing network

10 services comprises redirecting domain name service requests to a local domain name

11 server for the foreign network.

1   15. Apparatus for providing connectivity to a foreign network for a

2 device configured for communication over a home network without reconfiguring the

3 device, the apparatus comprising:

4   means for intercepting packets transmitted by the device;

5   means for selectively modifying intercepted packets which are

6 incompatible with the foreign network to be compatible with network settings of the

7 foreign network; and

8   means for selectively providing network services for the device

9 corresponding to network services available on the home network to reduce delay

10 associated with accessing the network services from the foreign network, or to provide

11 network services otherwise inaccessible from the foreign network.

1   16. The apparatus of claim 15 wherein the means for selectively

2 providing network services comprises means for providing a proxy service.

1   17. The apparatus of claim 16 wherein the proxy service comprises a

2 hypertext transfer protocol proxy service.

1   18. The apparatus of claim 16 wherein the proxy service comprises a

2 file transfer protocol proxy service.

1   19. The apparatus of claim 16 wherein the means for providing a proxy

2 service comprises means for resolving a domain name to an address.

1   20. The apparatus of claim 19 wherein the means for resolving a

2 domain name to an address comprises:

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3   means for attempting to resolve the domain name to an address using

4   a domain name server accessible from the foreign network; and

5   means for resolving the domain name to an address corresponding to

6   a configuration adapter after a predetermined timeout period expires, or if the domain

7   name servers accessible from the foreign network can not resolve the domain name.

1   21. The apparatus of claim 19 wherein the means for resolving a

2   domain name to an address comprises:

3   means for establishing a connection between the device and a

4   configuration adapter;

5   means for examining contents of the intercepted packets to identify a

6   domain name;

7   means for resolving the domain name to an address;

8   means for establishing a connection between the configuration adapter

9   and a computer at the address corresponding to the domain name; and

10   means for splicing the connections between the device and the

11   configuration adapter, and between the configuration adapter and the computer, to form

12   a single connection between the device and the computer.

1   22. The apparatus of claim 21 wherein the means for splicing the

2   connections comprises means for directly modifying subsequently intercepted packets

3   without copying the packet payload.

1   23. The apparatus of claim 21 wherein the means for resolving the

2   domain name to an address comprises means for using a domain name server

3   accessible from the foreign network.

1   24. The apparatus of claim 21 wherein the means for resolving the

2   domain name to an address comprises:

3   means for resolving the domain name to an address using a domain

4   name server;

5   means for attempting to establish a connection with a computer at the

6   address corresponding to the domain name;

7   means for resolving the domain name to an address corresponding to

8   the configuration adapter after expiration of a predetermined timeout period;

9   wherein the means for splicing performs the splicing only after

10   receiving a delayed response from the computer at the address corresponding to the

11   domain name.

1   25.   The apparatus of claim 15 wherein the means for selectively

2   providing network services comprises means for providing an outgoing email service.

1   26.   The apparatus of claim 25 wherein the means for providing an

2   outgoing email service comprises means for modifying intercepted simple mail

3   transport protocol (SMTP) packets to redirect the intercepted SMTP packets to an

4   SMTP server on the foreign network.

1   27.   The apparatus of claim 25 wherein the means for providing an

2   outgoing email service comprises means for modifying intercepted simple mail

3   transport protocol (SMTP) packets to redirect the intercepted SMTP packets to an

4   SMTP server on the foreign network without modifying the source address of the

5   SMTP packet.

1   28.   The apparatus of claim 15 wherein the means for selectively

2   providing network services comprises means for redirecting domain name service

3   requests to a local domain name server for the foreign network to improve response

4   time.

1   29.   A configuration adapter for providing connectivity to a foreign

2   network for a device configured for communication over a home network without

3   reconfiguring the device, the configuration adapter comprising:

4   at least one network interface for connecting to the foreign network; and

5   a processor in communication with the network interface, the processor

6   intercepting packets transmitted by the device, selectively modifying intercepted

7   packets which are incompatible with the foreign network to be compatible with

8   network settings of the foreign network, and selectively providing network services for

9   the device corresponding to network services available on the home network to reduce

10   delay associated with accessing the network services from the foreign network, or to

11   provide network services otherwise inaccessible from the foreign network.

1 30. The configuration adapter of claim 29 wherein the processor
2 selectively provides a proxy service for the device.

1 31. The configuration adapter of claim 30 wherein the proxy service
2 comprises a hypertext transfer protocol proxy service.

1 32. The configuration adapter of claim 30 wherein the proxy service
2 comprises a file transfer protocol proxy service.

1 33. The configuration adapter of claim 30 wherein providing a proxy
2 service for the device includes resolving a domain name to an address.

1 34. The configuration adapter of claim 33 wherein the processor
2 attempts to resolve the domain name to an address using a domain name server
3 accessible from the foreign network, and resolves the domain name to an address
4 corresponding to the configuration adapter after a predetermined timeout period
5 expires, or if the domain name servers accessible from the foreign network can not
6 resolve the domain name.

1 35. The configuration adapter of claim 33 wherein the processor
2 establishes a connection between the device and the configuration
3 adapter, examines contents of the intercepted packets to identify a domain name,
4 resolves the domain name to an address, establishes a connection between the
5 configuration adapter and a computer at the address corresponding to the domain
6 name, and splices the connections between the device and the configuration adapter,
7 and between the configuration adapter and the computer, to form a single connection
8 between the device and the computer.

1 36. The configuration adapter of claim 35 wherein the processor splices
2 the connections by directly modifying subsequently intercepted packets without
3 copying the packet payload.

1 37. The configuration manager of claim 35 wherein the processor
2 resolves the domain name to an address using a domain name server accessible from
3 the foreign network.

4   38. The configuration manager of claim 35 wherein the processor
5   resolves the domain name to an address by:
6   resolving the domain name to an address using a domain name server;
7   attempting to establish a connection with a computer at the address
8   corresponding to the domain name;
9   resolving the domain name to an address corresponding to the
10   configuration adapter after expiration of a predetermined timeout period; and
11   splicing the connections after receiving a delayed response from the
12   computer at the address corresponding to the domain name.

1   39. The configuration manager of claim 28 wherein the processor
2   selectively provides an outgoing email service.

1   40. The configuration manager of claim 39 wherein the processor
2   provides an outgoing email service by redirecting intercepted simple mail transport
3   protocol (SMTP) packets to an SMTP server configured to process mail from addresses
4   on the foreign network.

1   41. The configuration adapter of claim 39 wherein the processor
2   redirects intercepted simple mail transport protocol (SMTP) packets without modifying
3   the source address of the SMTP packet.

1   42. The configuration adapter of claim 39 wherein the processor
2   redirects domain name service requests to a local domain name server for the foreign
3   network.

4   43. A method for providing access to a second local area network for
5   a device configured to communicate over a first local area network having
6   incompatible network settings, the method comprising:
7   determining whether an application running on the device is requesting
8   a proxy service;
9   modifying packets containing proxy requests to direct requests if the
10   requested proxy service is inaccessible from the foreign network.

1   44. The method of claim 43 wherein the step of determining comprises
2 establishing a transmission control protocol (TCP) connection between a configuration
3 adapter and the device to examine contents of packets transmitted by the device.

1   45. The method of claim 44 wherein the step of determining further
2 comprises:
3   establishing a TCP connection between the configuration adapter and
4 the proxy server requested by the application; and
5   splicing the connections such that end-to-end semantics are maintained
6 by the application and the requested proxy server.

1   46. The method of claim 44 wherein the step of splicing comprises:
2   implementing a subset of network protocol functionality to intercept
3 each packet from the application without passing the packet through an RFC-compliant
4 protocol stack.